



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR    | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-------------------------|---------------------|------------------|
| 10/552,473  | 10/07/2005  | Sebastian John Corlette | 4412-16             | 2188             |
| 23117 7590 11/15/2007<br>NIXON & VANDERHYE, PC<br>901 NORTH GLEBE ROAD, 11TH FLOOR<br>ARLINGTON, VA 22203 |             |                         |                     |                  |
| EXAMINER  |             |                         |                     |                  |
| GUPTA, VANI   |             |                         |                     |                  |
| ART UNIT  |             | PAPER NUMBER            |                     |                  |
| 4123  |             |                         |                     |                  |
| MAIL DATE   |             | DELIVERY MODE           |                     |                  |
| 11/15/2007  |             | PAPER                   |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/552,473

**Applicant(s)**

CORLETTE ET AL.

**Examiner**

Vani Gupta

**Art Unit**

4123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)  
Paper No(s)/Mail Date 10/07/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responsive to the non-provisional application filed on June 3, 2004. Claims 20 – 33 are pending. Claims 20, 25, and 32 are independent.

#### ***Specification***

2. The abstract of the disclosure is objected to because of the following reasons included below. Correction is required. See MPEP § 608.01(b).

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: #50. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because a) the lines, numbers and letters are not uniform, clean and well defined (of a generally poor quality) in Figures 5 and 6 (37 CFR 1.84(l)). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 101***

4. **35 U.S.C. 101** reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 20 – 24** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claims 20 and 21** are rejected under 35 U.S.C. 101, because “for monitoring fluctuations in opaque body” in Line 1; “for locating adjacent the opaque body” in Line 2; “for detecting fluctuations... from said opaque body” in Line 3 and 4; and “for analyzing said fluctuations from the body... derive characteristics about said body” in Line 5 recites a human in combination with a machine claim, making the claim non-patent eligible subject matter.

**Claim 22** is rejected under 35 U.S.C. 101, because “said opaque body comprises a human body” in Line 1 and “heart rate” in Line 2 recites a human in combination with a machine claim, making the claim non-patent eligible subject matter.

**Claim 23** is rejected under 35 U.S.C. 101, because “said opaque body comprises a human body” in Line 1 and “respiration rate” in Line 2 recites a human in combination with a machine claim, making the claim non-patent eligible subject matter.

**Claim 24** is rejected under 35 U.S.C. 101, because “located near the chest of the human” in Lines 1 – 2 recites a human in combination with a machine claim, making the claim non-patent eligible subject matter.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 20 – 32** are rejected under 35 U.S.C. 102(b) as being unpatentable by *Daniel D. Mawhinney's (US Patent 4,991,585)*.

Regarding **Claim 20**, Mawhinney teaches that a device for monitoring fluctuations in an opaque body comprises:

- a. At least one low power microwave emitter for locating adjacent the opaque body (Abstract, Lines 1 – 4);
- b. A microwave detector for detecting fluctuations in the scattering characteristics from said opaque body (Abstract, Lines 4 – 8); and
- c. A signal processing means for analyzing said fluctuations from the body so as to thereby derive characteristics about said body (Abstract, Lines 8 – 14).

Regarding **Claim 21**, Mawhinney teaches that the emitter and detector of the device, as claimed in Claim 1, are formed as one unit (Column 2, Lines 48 – 49).

Regarding **Claims 22 and 23**, Mawhinney teaches that the signal processing means as claimed in Claim 1(c), extracts a heart rate and respiration rate from fluctuations in an opaque body (Column 1, Lines 10 – 12; Lines 48 – 52; and Title).

Regarding **Claim 24**, Mawhinney teaches that aid device is portable and located near the chest of the human (Column 2, Lines 49 – 50; Figure 1 and Column 2, 46 – 51).

Regarding **Claim 25**, Mawhinney teaches that a method of monitoring fluctuations in the density of an opaque body, comprises the following steps:

- a. Locating a low power microwave emitter adjacent said opaque body (Column 4, Lines 24 – 35);
- b. Monitoring the scattering properties of said opaque body so as to produce a monitor signal (Column 4, Lines 35 – 55);
- c. Utilizing fluctuations in said monitor signal over time to infer fluctuations in said opaque body (Column 4, Lines 55 – 38 through Column 5, Lines 1 – 8).

Regarding **Claim 26**, Mawhinney teaches that the body, as claimed in Claim 7, comprises a human body (Figure 1).

Regarding **Claims 27 and 28**, Allen teaches that a method as claimed in Claim 8, fluctuations include alterations in the blood flow rate and respiration rate within the human body (Column 5, Lines 38 – 45).

Regarding **Claim 29**, Mawhinney teaches that the low power microwave emitter is located adjacent the chest of the human body (Column 2, Lines 47 – 53).

Regarding **Claim 30**, Mawhinney teaches that low power microwave emitter includes two antennas, one for output and one for input (Column 2, Lines 63 – 68 through Column 3, Lines 1 – 8).

Regarding **Claim 31**, Mawhinney teaches that the low power microwave emitter includes only one antenna (Figure 2, #200).

Regarding **Claim 32**, Mawhinney teaches that a remote monitoring system for monitoring a series of patients at remote locations, said monitoring systems including:

- a) A series of portable monitoring units for monitoring fluctuations in a human, the monitoring units including at least one low power microwave emitter for locating adjacent the human body (Column 5, Lines 31 – 34), a microwave detector for detecting in the scattering characteristics from the human body (Column 5, Lines 25 – 26); and a signal processing means for analyzing said fluctuations in the power so as to thereby derive characteristics about said body (Column 1, Lines 40 – 45, and Lines 52 – 59), and a wireless communications interface for communicating characteristics about said body with a spatially separated base station (Column 5, Lines 26 – 31);
- b) A series of base stations, each further interconnected with an information distribution network, said base stations receiving said characteristics from said portable 20 monitoring units and forwarding them to a centralized computing and storage resource (Figure 2, #218; and Column 5, Lines 25 – 31); and
- c) A centralized computing and storage resource for storing (Column 1, Lines 59 – 62) and monitoring (Column 1, Lines 10 – 11) said characteristics.



***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claim 33** rejected under 35 USC 103(a) as being obvious over *Daniel D. Mawhinney's* (US Patent 4,991,585) in view of Sharpe et al. US Patent 4,958,638.

Regarding Claim 33, Mawhinney discloses a remote monitoring system for monitoring a series of patients at remote locations, which includes a series of portable monitoring units for monitoring fluctuations in a human; signal processing means for analyzing the fluctuations in the power; a wireless communications interface for communicating characteristics about the body; a series of base stations, each further interconnected with an information distribution network; and a centralized computing and storage resource for storing and monitoring characteristics of the human body. Mawhinney does not appear to explicitly disclose analysis means for analyzing characteristics for predetermined behaviors and raising a notification alarm upon the occurrence of said predetermined behaviors.

However, Sharpe et al. teach analysis means for analyzing said characteristics for predetermined behaviors (Figure 1, #80; and Column 3, Lines 67 – 68 through Column 4, Lines 1 –2) and raising a notification alarm upon the occurrence of said predetermined behaviors (Column 1, 49 – 54).

Mawhinney and Sharpe et al. are analogous art because they are from the same field of endeavor of non-invasive heart and respiration rate monitoring.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Mawhinney and Sharpe et al. before him or her to modify the vital signs monitor of Mawhinney to include the microcontroller or digital signal processor of Sharpe et al. because both rely on the principle that breathing and heartbeat produce measurable phase changes in electromagnetic waves as they reflect

Art Unit: 4123

off a human being (Sharpe: Column 1, Lines 15 – 18; Mawhinney: Column 1, Lines 52 – 56).

The motivation for doing so would have been to ensure that the invention of Mawhinney's is still modular in structure and still meets its objective in properly processing the sensed signals while monitoring the human in question (Sharpe: Column 1, Lines 53 – 63).

Therefore, it would have been obvious to combine Mawhinney with Sharpe et al. to obtain the invention in the instant Claim 33.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vani Gupta whose telephone number is 571-270-5042. The examiner can normally be reached on Monday - Thursday; 7:30 - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Del Sole can be reached on 571-272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4123

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VG  
/Vani Gupta/  
Examiner, Art Unit 4123

/Joseph S. Del Sole/  
Supervisory Patent Examiner, Art Unit 4123